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EXAMINER	
BLAIR, DOUGLAS B	

ART UNIT	PAPER NUMBER
2442	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/549,328	MCALLISTER ET AL.	
	Examiner	Art Unit	
	DOUGLAS B. BLAIR	2442	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 January 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-62* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-62* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 April 2000* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 1/2/2009 have been fully considered but they are not persuasive.

37 CFR 1.83(a) requires "The drawing in a nonprovisional application must show every feature of the invention specified in the claims". The "control plane", "routing plane", "signaling plane", and "data plane" are specified in the claims and therefore they must be shown. The applicant made no attempt to explain how these features are shown so the drawing objection is maintained.

The specification objection is maintained because the applicant makes no attempt to explain how the "control plane", "routing plane", "signaling plane", and "data plane" are defined. Instead the applicant seems to be saying that they do not have to be defined. The Examiner disagrees because it is impossible to determine the meets and bounds of the claims if the claim terms do not have definitions.

As to the arguments against the 35 USC section 112 1st paragraph rejection, the applicant's explanation is addressed in the body of the revised rejection following in this office action.

As to rejection based on Fedyk, the col. 6, lines 45-54 clearly show control plane congestion messages that are different from data plane congestion messages. All other arguments of the applicant have been addressed in previous office actions.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "control plane", "routing plane", "signaling plane", and "data plane" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the

following is required: the specification does not provide any definition of a "control plane", a "signaling plane", a "routing plane", or a "data plane".

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-62 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The applicant contends that support for the limitation "wherein the control plan congestion is not data plane congestion" can be found, for example, in the specification at page 4, lines 1-3, page 11, lines 14-23, and page 14, lines 14-18. The Examiner disagrees. Page 4, lines 1-3 and page 11, lines 14-23 merely say that the data plane and control planes are different but do not state anything about congestion messages.

Page 14, lines 14-18 is not directed towards congestion signaling according to the preceding lines 9-11. The paragraph on page 14 implies that ATM-based system have congestion signaling but states nothing about congestion in differing planes. The example in lines 14-18 only states that IP congestion indicates data congestion but the applicant does not explain how one would find control plane congestion as claimed.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-6, 8-25, and 27-62 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Number 6,560,654 to Fedyk et al..

As to claim 20, Fedyk teaches a congestion notification processor, comprising: a processing module; memory operably coupled to the processing module, wherein the memory stores operating instructions that, when executed by the processing module, cause the processing module to perform functions including: detecting control plane congestion at a network element in a signaling network (col. 5, lines 13-30, each intervening node detects whether the parameters of the setup message can be met.), wherein said control plane congestion is not data plane congestion, wherein said control plane congestion occurs in the control plane, said control plane carrying a connection setup message, and said data plane congestion occurs in a data plane, said data plane carrying data packets (col. 5, lines 13, 30, the feedback messages taught by Fedyk are independent of the normal data traffic and therefore the satisfy this limitation); generating a congestion notification corresponding to the control plane congestion (col. 5, lines 13-30, the feedback message); providing the congestion notification to at least one additional network element in the signaling network, wherein the at least one additional network element utilizes the

congestion notification for routing control traffic around the network element at which the control plane congestion has been detected (col. 6, lines 4-18, if the feedback message is negative then another path is selected).

As to claim 21, Fedyk teaches the congestion notification processor of claim 20, wherein the memory stores operating instructions that, when executed, cause the processing module to provide congestion via routing plane within the signaling network (col. 5, lines 13-30 and Figure 1, the devices in Figure 1 are considered a routing plane and the network is a signaling network).

As to claim 22, Fedyk teaches the congestion notification processor of claim 21, wherein the memory stores operating instructions that, when executed, cause the processing module to provide the congestion notification via the routing plane such that the congestion notification is provided to neighboring network elements proximal to the network element (col. 5, lines 13-60).

As to claim 23, Fedyk teaches the congestion notification processor of claim 20, wherein the memory stores operating instructions that, when executed, cause the processing module to provide congestion notification via a signaling plane within the signaling network (col. 4, lines 9-37, the network in Figure 1 is considered a signaling plane).

As to claim 24, Fedyk teaches the congestion notification processor of claim 20, wherein the memory stores operating instructions that, when executed, cause the processing module to proceed the congestion notification in response to a received connection setup message generated by a source node in the network, wherein the at least one additional node includes the source node (col. 5, lines 13-60, the feedback message is relayed to the source).

As to claim 25, Fedyk teaches the congestion notification processor of claim 24, wherein the memory stores operating instructions that, when executed cause the processing module to

provide the congestion notification via a signaling plane wherein the signaling network, wherein the congestion notification is provided to each network element along a path traversed by the connection setup message (col. 5, lines 13-60).

As to claim 27, Fedyk teaches the congestion notification processor of claim 20, wherein the signaling network is included in at least one of a packet-based communication network and a cell-based communication network (col. 4, lines 9-20).

As to claim 28, Fedyk teaches the congestion notification processor of claim 27, wherein the signaling network is a source routed control network (col. 4, lines 9-20).

As to claim 29, Fedyk teaches the congestion notification processor of claim 28, wherein the signaling network is included in an ATM network utilizing a Private Node Network Interface (PNNI) routing and signaling protocol (col. 3, lines 32-45).

As to claims 1-6 and 8-10, they feature the same limitations as claims 20-25 and 27-29 and are rejected for the same reasons as claims 20-25 and 27-29.

As to claim 30, Fedyk teaches the congestion notification processor of claim 22, wherein utilization of the congestion notification by the at least one additional network element further comprises at least one of: updating routing tables, generating a congestion database, propagating the congestion notification to additional elements in the network, and compiling statistics reflecting network performance (col. 5, lines 45-60).

As to claim 31, Fedyk teaches the congestion notification processor of claim 22, wherein the congestion notification includes a congestion level and wherein utilization of the congestion notification further comprises reducing control traffic to the network element at which the

control plane congestion has been detected, wherein an amount of reduction in control traffic to the network element is based on the congestion level (col. 5, lines 32-44).

As to claim 32, Fedyk teaches a connection processor, comprising: a processing module; memory operably coupled to the processing module wherein the memory stores operating instructions that, when executed by the processing module, cause the processing module to perform functions including: receiving a request to establish a connection in a communication network, wherein the request includes a destination (col. 5, line 13-30, the setup message); determining a first routing path for the connection based on the network parameters, wherein the network parameters include communication network topology information and congestion information corresponding to at least one previously received congestion indication (col. 5, lines 10-12 and lines 45-61), wherein said control plane information pertains to control plane congestion, (control plane information will always pertain to control plane congestion) wherein said control plane congestion is not data plane congestion, wherein said control plane congestion occurs in the control plane, said control plane carrying a connection setup message, and said data plane congestion occurs in a data plane, said data plane carrying data packets (col. 5, lines 13, 30, the feedback messages taught by Fedyk are independent of the normal data traffic and therefore the satisfy this limitation); and sending a first connection setup message along the first routing path (col. 6, lines 4-22).

As to claim 33, Fedyk teaches the connection processor of claim 32, wherein the memory stores additional instructions that, when executed by the processing module, cause the processing module to perform the additional functions of: receiving an indication of control plane congestion at a congestion point along the first routing path (col. 5, lines 13-60, the feedback

message); determining a second routing path for the connection using the network parameters and the indication of control plane congestion (col. 6, lines 4-22); and sending a second connection setup message along the second routing path (col. 6, lines 4-22).

As to claim 34, Fedyk teaches the connection processor of claim 33, wherein the processing module stores the network parameters in a table, and wherein memory stores operating instructions that when executed, cause the processing module to add congestion information included in the indication of control plane congestion to the network parameters stored in the table (col. 5, lines 45-60).

As to claim 35, Fedyk teaches the connection processor of claim 34, wherein the memory stores operating instructions that, when executed, cause the processing module to remove the congestion information from the table after a predetermined time period (col. 6, lines 19-28).

As to claim 36, Fedyk teaches the connection processor of claim 35, wherein the congestion information includes a level of congestion, and wherein the predetermined time period is based on the level of congestion (col. 6, lines 19-28).

As to claim 37, Fedyk teaches the connection processor of claim 33, wherein the memory stores operating instructions that, when executed, cause the processing module to perform an additional function of relaying the indication of control plane congestion to at least one additional node in the communication network (col. 6, lines 4-22).

As to claim 38, Fedyk teaches the connection processor of claim 33, wherein the memory stores operating instructions that, when executed, cause the processing module to store congestion information included in the indication of control plane congestion (col. 6, lines 4-22).

As to claim 39, Fedyk teaches the connection processor of claim 33, wherein the indication of control plane congestion is received by the processing module via a routing plane (col. 5, lines 13-30).

As to claim 40, Fedyk teaches the connection processor of claim 33, wherein the indication of control plane congestion is received by the processing module via a signaling plane (col. 4, lines 9-37).

As to claims 11-19, the have the same limitations as claims 32-40 and are rejected for the same reasons as claims 32-40.

As to claim 41, Fedyk teaches a method for communicating control plane congestion information in signaling network, comprising: detecting control plane congestion at a network element (col. 5, lines 13-30), wherein said control plane congestion is not data plane congestion, wherein said control plane congestion occurs in the control plane, said control plane carrying a connection setup message, and said data plane congestion occurs in a data plane, said data plane carrying data packets (col. 5, lines 13, 30, the feedback messages taught by Fedyk are independent of the normal data traffic and therefore the satisfy this limitation); generating a congestion notification corresponding to the control plane congestion, wherein the congestion notification includes a congestion level (col. 5, lines 13-30); providing the congestion notification to at least one additional network element in the signaling network (col. 5, lines 13-30), wherein the at least one additional network element utilizes the congestion notification for reducing control traffic to the network element at which the control plane congestion has been detected, wherein an amount of reduction in control traffic to the network element is based on

the congestion level (col. 5, lines 31-60, the level is considered negative or positive so the traffic by the source is reduced according to a negative or positive feedback message).

As to claim 42, Fedyk teaches a method for communicating control plane congestion information in a signaling network, comprising: detecting control plane congestion at a network element (col. 5, lines 13-30), wherein said control plane congestion is not data plane congestion, wherein said control plane congestion occurs in the control plane, said control plane carrying a connection setup message, and said data plane congestion occurs in a data plane, said data plane carrying data packets (col. 5, lines 13, 30, the feedback messages taught by Fedyk are independent of the normal data traffic and therefore the satisfy this limitation); generating a congestion notification corresponding to the control plane congestion (col. 5, lines 13-30); providing the congestion notification to at least one additional network element in the signaling network (col. 5, lines 13-30), wherein the at least one additional network element utilizes the congestion notification for performing at least one of: updating routing tables, generating a congestion database, propagating the congestion notification to additional elements in the network, and compiling statistics reflecting network performance (col. 5, lines 45-60).

As to claim 52, Fedyk teaches a congestion notification processor, comprising: a processing module; memory operably coupled to the processing module, wherein the memory stores operating instructions that, when executed by the processing module, cause the processing module to perform functions including: detecting control plane congestion at a network element in a signaling network (col. 5, lines 13-30, each intervening node detects whether the parameters of the setup message can be met.), wherein said control plane congestion is not data plane congestion, wherein said control plane congestion occurs in the control plane, said control plane

carrying a connection setup message, and said data plane congestion occurs in a data plane, said data plane carrying data packets (col. 5, lines 13, 30, the feedback messages taught by Fedyk are independent of the normal data traffic and therefore the satisfy this limitation); generating a congestion notification corresponding to the control plane congestion (col. 5, lines 13-30, the feedback message); providing the congestion notification to at least one additional network element in the signaling network, wherein the at least one additional network element utilizes the congestion notification for routing control traffic around the network element at which the control plane congestion has been detected (col. 6, lines 4-18, if the feedback message is negative then another path is selected); such that scaled back amount of control traffic is sent to the network element at which the control plane congestion has been detected, wherein an amount of reduction in control traffic to the network element is based on the congestion level (col. 5, lines 13-60, the traffic to the network element where the congestion occurred is scaled back to zero when a negative feedback is received).

As to claim 53, it is rejected for reasons pointed out in the rejection of claim 24.

As to claim 54, Fedyk teaches the congestion notification processor of claim 52, wherein the congestion notification is provided to a source node and to the at least one additional network element in the signaling network in response to a received connection setup message generated by the source node, wherein the at least one additional network element utilizes the congestion notification for reducing control traffic to the network element at which the control plane congestion has been detected (col. 5, lines 13-30, the feedback message is sent through all of the nodes used in the point-to-point link. By forwarding the feedback message, each node is utilizing the congestion to reduce control traffic).

As to claim 55, Fedyk teaches the congestion notification processor of claim 54, wherein the at least one additional network element comprises a network element along a path traversed by the connection setup message (col. 5, lines 13-30).

As to claim 56, it is rejected for the same reasons pointed out in the rejection of claim 41.

As to claim 57, Fedyk teaches the congestion notification processor of claim 52, wherein the operating instructions further cause the processing module to perform: maintaining the congestion information for a predetermined time period (col. 6, lines 18-29); and removing the congestion information after the predetermined time period (col. 6, lines 18-29).

As to claim 58, Fedyk teaches the congestion notification processor of claim 57, wherein the operating instructions further cause the processing module to perform the maintaining of the congestion information in a routing table (col. 5, lines 45-61).

As to claim 59, Fedyk teaches the congestion notification processor of claim 57, wherein the operating instructions further cause the processing module to perform the maintaining of the congestion information in a topology database (col. 5, lines 45-61).

As to claim 60, Fedyk teaches the congestion notification processor of claim 52, wherein the operating instructions further cause the processing module to perform: prioritizing traffic such that traffic of a priority is attempted to be routed through the network element at which the control plane congestion has been detected after the congestion notification has been provided (col. 4, line 61-col. 5, line 12 and col. 6, lines 18-29, Fedyk describes prioritizing traffic and Fedyk teaches transmitting traffic though a network element in which control plane congestion has been detected after a time period).

As to claim 61, Fedyk teaches the congestion notification processor of claim 60, wherein the traffic of a priority further comprises traffic of a high priority (col. 4, line 61-col. 5, line 12).

As to claim 62, Fedyk teaches the congestion notification processor of claim 60, wherein the traffic of a priority further comprises traffic of a lower priority (col. 4, line 61-col. 5, line 12).

As to claims 43-51, they feature a method corresponding to that done by the congestion notification processor of claims 52-62 and are thus rejected for the same reasoning.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 7 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 6,560,654 to Fedyk et al. in view of U.S. Patent Number 6,424,620 to Nishihara.

As to claims 7 and 26, Fedyk teaches the subject matter of claims 1 and 20, respectively, however Fedyk does not explicitly teach distinguishing between node congestion and link congestion.

Nishihara teaches a congestion notification processor wherein the congestion indication includes at least one congestion parameter from the set of congestion parameters that includes: a congestion type that distinguishes between node congestion and link congestion, a congestion location, and a congestion level (col. 17, lines 41-39, the BRM packet indicates whether congestion is caused by inside or outside blocking).

It would have been obvious to one of ordinary skill in the Computer Networking art at the time of the applicant's invention to combine the teachings of Fedyk regarding the detection of control plane congestion with the teachings of Nishihara regarding detecting congestion type because differing congestion types can be handled more efficiently by taking corresponding actions (Nishihara, col. 17, lines 50-67).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DOUGLAS B. BLAIR whose telephone number is (571)272-3893. The examiner can normally be reached on 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on (571) 272-3868. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Douglas B Blair/
Primary Examiner, Art Unit 2442